

## WHAT IS CLAIMED IS:

1. A voltage detector, comprising:

a resistor pair connected to an input voltage;

a reference resistor connected to one resistor of the resistor pair, for

5 partitioning the input voltage to produce a first comparison voltage;

at least one transistor pair respectively connected the other resistor of the resistor pair and the reference resistor, for producing a second comparison voltage; and

a comparator connected between a connection of the two pairs and a  
10 connection of the resistor pair and the reference resistor, for receiving and then comparing the first comparison voltage and the second comparison voltage, thereby outputting a voltage level.

2. The voltage detector as claimed in claim 1, wherein a resistance ratio of the resistor pair, a resistance of the reference resistor and an area  
15 ratio of the at least one transistor pair are adjusted to reduce temperature coefficient impact.

3. The voltage detector as claimed in claim 2, wherein the comparator has a detection voltage level as  $V_{BG} \frac{R2 + R3}{R3}$ , where  $V_{BG}$  is the  
second comparison voltage, R2 is a resistance of the one of the resistor pair  
20 and R3 is the reference resistor.

4. The voltage detector as claimed in claim 3, wherein the resistance ratio of the resistor pair, the resistance of the reference resistor and the area ratio of the at least one transistor pair are adjusted such that the second

comparison voltage has a voltage level in the detection voltage level, thereby obtaining a required detection voltage level.

5        5. The voltage detector as claimed in claim 1, wherein the comparator has a detection voltage level, and a cascaded number varies with the detection voltage level such that a number of cascaded transistor pairs are added to the at least one transistor pair based on the cascaded number.

10        6. The voltage detector as claimed in claim 5, wherein the number of cascaded transistor pairs is two when the detection voltage has twice level as high as the second comparison voltage.

7. The voltage detector as claimed in claim 1, further comprising: a disconnection switch coupled between the resistor pair and the input voltage, for disconnecting a current flow in the resistor pair and thus entering a standby mode.

15